

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

*Hawley's*

*Condensed Chemical*

*Dictionary*

*THIRTEENTH EDITION*

*Revised by*

Richard J. Lewis, Sr.



**VAN NOSTRAND REINHOLD**

© 1978 A Division of International Thomson Publishing Inc.

New York • Albany • Bonn • Boston • Detroit • London • Madrid • Melbourne  
Mexico City • Paris • San Francisco • Singapore • Tokyo • Toronto

Copyright © 1997 by Van Nostrand Reinhold

ITP™ Van Nostrand Reinhold is a division of International Thomson Publishing, Inc.  
The ITP logo is a trademark under license

Printed in the United States of America

For more information, contact:

Van Nostrand Reinhold  
115 Fifth Avenue  
New York, NY 10003

Chapman & Hall GmbH  
Pappelallee 3  
69469 Weinheim  
Germany

Chapman & Hall  
2-6 Boundary Row  
London  
SE1 8HN  
United Kingdom

International Thomson Publishing Asia  
221 Henderson Road #05-10  
Henderson Building  
Singapore 0315

Thomas Nelson Australia  
102 Dodds Street  
South Melbourne, 3205  
Victoria, Australia

International Thomson Publishing Japan  
Hirakawacho Kyowa Building, 3F  
2-2-1 Hirakawacho  
Chiyoda-ku, 102 Tokyo  
Japan

Nelson Canada  
1120 Birchmount Road  
Scarborough, Ontario  
Canada M1K 5G4

International Thomson Editores  
Seneca 53  
Col. Polanco  
11560 Mexico D.F. Mexico

All rights reserved. Certain portions of this work © 1930, 1920, 1919 by The Chemical Catalog Co., Inc., and 1978, 1981, 1977, 1971, 1966, 1956, 1950 by Van Nostrand Reinhold. No part of this work covered by the copyright hereon may be reproduced or used in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or information storage and retrieval systems—without the written permission of the publisher.

97 98 99 00 01 HAM 10 9 8 7 6 5 4 3 2 1

#### Library of Congress Cataloging-in-Publication Data

Condensed chemical dictionary.

Hawley's condensed chemical dictionary.—13th ed./revised by  
Richard J. Lewis, Sr.

p. cm.

ISBN 0-442-02324-3 (hardcover)

and flint glasses for specific refractivity and dispersion properties.

**glass, photochromic.** A glass that changes color on exposure to light and returns to original color when the light has been removed. One type is a silicate glass containing dispersed crystals of colloidal silver halide that is precipitated within the melt during cooling. Alkali borosilicates are the most suitable types of glasses for this purpose.

**Use:** Variable-tint prescription lenses that darken in sunlight and return to original clearness indoors (85% light transmission when clear, 45% in sunlight).

**glass, photosensitive.** A glass containing a small amount of a photosensitive substance such as gold, silver, or copper compound. When UV light is passed through a photographic negative onto the surface of this glass, a latent image formed within the glass is converted to a visible image made up of tiny metal particles when the glass is heated. In a special type of photosensitive glass (photosensitive opal), the metal particles of the photographic image within the glass serve as nuclei for the growth of nonmetallic crystals; crystalline growth is confined to the area of the image. These crystalline areas are dissolved much more rapidly than the adjacent glass by hydrogen fluoride. Thus, the glass can be formed into intricate shapes without the use of mechanical tools.

**glass, plate.** Plate glass has the same composition as window glass (soda-lime silica), differing from it only in method of manufacture. These differences are primarily (1) the longer time of annealing (3 or 4 days), which eliminates the distortion and strain effects of rapid cooling, and (2) intensive grinding and polishing, which removes local imperfections and produces a bright, highly reflecting finish.

**glass, ruby.** A deep-red glass made by incorporating colloidal gold into the silicate mixture. It is used chiefly in the decorative arts.

**glass, safety.** See safety glass.

**glass transition temperature.** ( $T_g$ ) The temperature at which an amorphous material (such as glass or a high polymer) changes from a brittle vitreous state to a plastic state. Many high polymers, such as acrylics, and their derivatives have this transition point, which is related to the number of carbon atoms in the ester group. The  $T_g$  depends on its composition and extent of annealing.

**glass, water.** See sodium silicate.

de by heating equal parts of 1400C, first made in 1978, gh resistance to alkalis and te for asbestos for cement re-ale production for this pur-ment.

(1) A soda-lime glass con-5% boric oxide, which low-e silica without increasing its-uch glasses (known as boro-low expansion coefficient and about 593C). Tensile strength 100 psi. Continuous-use tem-its UV light in higher wave-n sunlight lamps and similar ason.

ate glass as a storage-disposal:l radioactive wastes has been ae time. Tentative conclusions-ature and high-pressure au-; that this method would be storage of such wastes.

ss trademarked "Vycor" that C.

isparent, and very flexible pa-ssive beating of the pulp. It-xture of urea formaldehyde to: covers for books; general

Term for manganese dioxide

tal alloys having an amor-e similar to that of silica glass;f the molten alloy so rapidly-ucture is formed. Such alloys-than their crystalline counter-resistant to corrosion. Those-unusual ferromagnetic prop-suitable for use as transformer

ses intended for vision cor-ications as lenses for cameras,er instruments; must be of ex-and uniformity to meet re-ive index and light dispersion.e: either crown (lime) or flint

magnesium found in greensands and other sedimentary rocks.

**Properties:** Green in color, earthy luster. D 2.3.

**Occurrence:** New Jersey, Virginia.

**Use:** Water softener, foundry molds, fertilizer.

**glaze.** A mixture similar to porcelain enamel, applied to a ceramic substrate. It may refer to (1) a vitreous coating on pottery or enamelware, (2) the mixed dry powders of the batch to be used for the coating, or (3) a water suspension of these materials (wet glaze). Glazes must be low in sodium and are usually mixtures of silicates and flint, lead compounds, boric acid, calcium carbonate, etc. See frit; porcelain enamel.

**glaze stain.** Finely ground calcined oxide of cobalt, copper, iron, and manganese.

**Use:** Coloring ceramic glazes.

**GLC.** Abbreviation for gas-liquid chromatography.

**See** gas chromatography.

**gliadin.** A prolamin occurring in gluten, the protein of wheat, rye, and other grains. Wheat gliadin has the following composition: 52.7% carbon, 17.7% nitrogen, 21.7% oxygen, 6.9% hydrogen, 1.0% sulfur. It is composed of 18 amino acids, 40% being glutamic acid. Insoluble in water, soluble in 70-90% alcohol, soluble in dilute acid and in alkali. **Use:** Chemical synthesis of spinal anesthetics, pharmaceutical preparations.

**"Glidco" [SCM].** TM for a series of products containing or derived from terpene hydrocarbons. They include tars used for impregnating paper, twine, cordage, etc.; dipentene is used in paints and rubber reclaiming, and terpineol is used in soap perfumes and the preparation of essential oils.

**"Glidmint Mint Oils" [SCM].** TM for peppermint and spearmint oils, which are identical in nature.

**Available forms:** Redistilled, double distilled, or triple distilled.

**"Glidox" [SCM].** TM for series of biodegradable mixtures of terpene chemicals made from a renewable natural resource.

**Use:** Rubber polymerization catalysts for SBR.

**"Glidsafe" [SCM].** TM for terpene-based solvents and cleansers to replace conventional solvents. Replaces hazardous or restricted (chlorinated) solvents.